(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 7 July 2005 (07.07.2005)

(10) International Publication Number WO 2005/061475 A3

- (51) International Patent Classification': C07D 307/85, 209/42, 215/48, 471/04
- (21) International Application Number:

PCT/JP2004/019454

(22) International Filing Date:

17 December 2004 (17.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(**30**) Priority Data: 2003907110

22 December 2003 (22.12.2003) AU

- (71) Applicant (for all designated States except US): ASTEL-LAS PHARMA INC. [JP/JP]; 3-11, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 1038411 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): HATTORI, Kouji [JP/JP]; c/o Astellas Pharma Inc., 3-11, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 1038411 (JP). FUJII, Naoaki [JP/US]; 103, Manor Drive, South San Francisco, CA 94080 (US). TANAKA, Akira [JP/JP]; c/o Astellas Pharma Inc., 3-11, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 1038411 (JP). WASHIZUKA, Kenichi [JP/JP]; c/o Astellas Pharma Inc., 3-11, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 1038411 (JP). SAKURAI, Minoru [JP/JP]; c/o Astellas Pharma Inc., 3-11, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 1038411 (JP). KURODA, Satoru [JP/JP]; c/o Astellas Pharma Inc., 3-11, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 1038411 (JP). TODA, Susumu [JP/JP]; c/o Astellas Pharma Inc., 3-11, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 1038411 (JP). NAKAJIMA, Yutaka [JP/JP]; c/o Astellas Pharma Inc., 3-11, Nihonbashi-Honcho 2-chome, Chuo-ku, Tokyo 1038411 (JP).

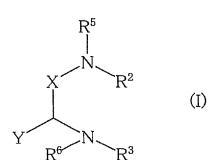
- (74) Agents: UEKI, Kyuichi et al.; Fujita-Toyobo Building 9th Floor, 1-16, Dojima 2-chome, Kita-ku, Osaka-shi, Osaka 5300003 (JP).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 4 May 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ORNITHINE DERIVATIVES AS PROSTAGLANDIN E2 AGONISTS OR ANTAGONISTS



(57) Abstract: Ornithine derivatives of the formula (I): wherein X is -CO- or -(CH₂)_k- (wherein k is 1, 2 or 3); Y is Z-(CH₂)_n-, and the like; {wherein Z is R^1 -CO-N R^4 -, and the like, (wherein R^1 is aryl, and the like; and R^4 is hydrogen, or lower alkyl); and n is 1, 2, 3, 4, 5 or 6}; R^2 is aryl-(lower alkyl), and the like; R^3 is -Q- R^7 , [wherein Q is -CO- or -SO₂-, R^7 is heterocyclyl], and the like; and R^5 and R^6 are independently hydrogen or lower alkyl; or a pharmaceutically acceptable salt thereof, which are useful as medicament.